

IMMA FERRER
Curriculum Vitae

Education

- **Ph.D. Thesis**, Institut d'Investigacions Químiques i Ambientals del Consell Superior d'Investigacions Científiques (IIQAB-CSIC), University of Barcelona (UB), Barcelona, Spain, December 1999.
- **Master Thesis**, Analytical Chemistry, Faculty of Chemistry, University of Barcelona (UB), Barcelona, Spain, December 1996.
- **B.S. in Chemistry**, Faculty of Chemistry, University of Barcelona (UB), Barcelona, Spain, July 1994.

Research Experience

March 2008-present: Professional Research Associate at the **University of Colorado**, Boulder, CO, USA. Chief Analyst of the **Center for Environmental Mass Spectrometry** at the University of Colorado.

April 2003-March 2008: Associate Professor Researcher at the **University of Almería** in Almería, Spain.

January 2000-January 2003: Post-doctoral research fellow at the **National Water Quality Laboratory** of the **U.S. Geological Survey** in Denver, Colorado, USA and at **Colorado School of Mines** (Golden, Colorado, USA). Sponsors: Dr. Edward T. Furlong and Prof. Kent J. Voorhees. Performed research into the development of LC/MS/MS methodologies for organic contaminants in the environment.

July 1995-December 1999: Ph. D. student at the **Environmental Chemistry Department of the IIQAB-CSIC** in Barcelona, Spain. Advisor: Prof. Damià Barceló. "Development of methodologies involving solid-phase extraction and liquid chromatography for the monitoring of pesticides and metabolites in natural waters".

March-May 1997: visiting research scientist (as part of the Ph. D.) at the **Organic Geochemistry Laboratory** of the **U.S. Geological Survey** in Lawrence, Kansas (USA) carrying out analysis of herbicides by high-performance-liquid-chromatography (HPLC).

July 1994-July 1995: Master thesis at the **Environmental Chemistry Department of the IIQAB-CSIC** in Barcelona, Spain (advisor: Prof. Damià Barceló). "Determination of pesticides in water by immunochemical and chromatographic techniques".

May 1994: one month of training in the Analytical Chemistry Department at the **University of Barcelona (UB)** carrying out analysis of polycyclic hydrocarbons by gas chromatography (GC).

List of Publications (Hirsch factor=36)

1. Thurman, E.M.; Ferrer, I.; Zweigenbaum, J.A., **2012**, Analysis of Pharmaceuticals in Environmental samples with Ultrahigh-Definition LC-QTOF-MS and Accurate Mass, *Current Trends in Mass Spectrometry*, in press.
2. Ferrer, I.; Thurman, E.M., **2012**, Analysis of 100 pharmaceuticals and their degradates in water samples by liquid chromatography/quadrupole time-of-flight mass spectrometry, *Journal of Chromatography A*, in press.
3. Thurman, E.M.; Ferrer, I., **2012**, Liquid Chromatography/Quadrupole Time-of-flight Mass Spectrometry with Metabolic Profiling of Human Urine as a Tool for Environmental Analysis of Dextromethorphan, *Journal of Chromatography A*, in press.
4. Padilla-Sánchez, J.A.; Thurman, E.M.; Plaza-Bolaños, P.; Ferrer, I., **2012**, Identification of pesticide transformation products in agricultural soils using liquid chromatography/quadrupole-time-of-flight mass spectrometry, *Rapid Communications in Mass Spectrometry*, 26, 1091-1099.
5. Writer, J.H.; Keefe, S.K.; Ryan, J.N.; Ferrer, I.; Thurman, E.M.; Barber, L.B., **2011**, Methods for Evaluating in-stream attenuation of trace organic compounds, *Applied Geochemistry*, v. 26, S344-S345.
6. Ferrer, I., Thurman, E.M., **2010**, Identification of a New Antidepressant and its Glucuronide Metabolite in Water Samples Using Liquid Chromatography/Quadrupole Time-of-Flight Mass Spectrometry, *Analytical Chemistry*, 82, 8161-8168.
7. Ferrer, I., Zweigenbaum, J.A., Thurman, E.M., **2010**, Analysis of 70 Environmental Protection Agency Priority Pharmaceuticals in Water by EPA Method 1694, *Journal of Chromatography A*, 1217, 5674-5686.
8. Ferrer, I., Thurman, E.M., **2010**, Analysis of sucralose and other sweeteners in water and beverage samples by liquid chromatography/time-of-flight-mass spectrometry, *Journal of Chromatography A*, v. 1217, 4127-4134.
9. Thurman, E.M., Ferrer, I., **2010**, The isotopic mass defect: a tool for limiting molecular formula by accurate mass, *Analytical and Bioanalytical Chemistry*, v 397, 2807-2816.
10. Ferrer, I., Thurman, E.M., **2010**, Environmental Application of a UHPLC System: the Evolution of Chromatography, *American Laboratory*, v. 42, 22-27.
11. Ferrer, I.; Barber, L.B.; Thurman, E.M., **2009**, Gas chromatographic-mass spectrometric fragmentation study of phytoestrogens as their trimethylsilyl derivatives: Identification in soy milk and wastewater samples, *Journal of Chromatography A*, v. 1216, 6024-6032.
12. Lambropoulou, D.A.; Hernando, M.D.; Konstantinou, I.K.; Thurman, E.M.; Ferrer, I.; Albanis, T.A.; Fernandez-Alba, A.R., **2008**, Identification of photocatalytic degradation products of bezafibrate in TiO₂ aqueous suspensions by liquid and gas chromatography, *Journal of Chromatography A*, v. 1183, 38-48.
13. Ferrer, C.; Fernández-Alba, A.R.; Ferrer, I., **2007**, Analysis of Illegal Dyes in Food by LC/TOF-MS, *International Journal of Environmental Analytical Chemistry*, v. 87, 999-1012.
14. Thurman, E.M.; Ferrer, I.; Pozo, O.J.; Sancho, J.V.; Hernández, F., **2007**, The even-electron rule in electrospray mass spectra of pesticides, *Rapid Communications in Mass Spectrometry*, v. 21, 3855-3868.

15. Ferrer, I.; Thurman, E.M.; Zweigenbaum, J.A., **2007**, Screening and Confirmation of 100 pesticides in Food Samples by LC/MS-MS, *Rapid Communications in Mass Spectrometry*, v. 21, 3869-3882.
16. Ferrer, I.; Thurman, E.M., **2007**, Multi-residue Method for the Analysis of 101 pesticides and their degradates in food and water samples by liquid chromatography/time-of-flight mass spectrometry, *Journal of Chromatography A*, v. 1175, 24-37.
17. Ferrer I.; Thurman E.M., **2007**, Importance of the Electron Mass in the Calculations of Exact Mass by Time-of-Flight Mass Spectrometry, *Rapid Communications in Mass Spectrometry*, v. 21, 2538-2539.
18. Gómez, M.J.; Malato, O.; Ferrer, I.; Agüera, A.; Fernández-Alba, A.R., **2007**, Solid-phase extraction followed by liquid chromatography–time-of-flight–mass spectrometry to evaluate pharmaceuticals in effluents. A pilot monitoring study, *Journal of Environmental Monitoring*, v. 9, 718-729.
19. Ferrer, I.; Fernández-Alba, A.R.; Zweigenbaum, J.A.; Thurman, E.M., **2006**, Exact-mass library for Pesticides using a molecular-feature database, *Rapid Communications in Mass Spectrometry*, v. 20, 3659-3668.
20. Thurman, E.M.; Ferrer, I.; Zweigenbaum, J.A., **2006**, High Resolution and Accurate Mass Analysis of Xenobiotics in Food, *Analytical Chemistry*, v. 78, 6702-6708.
21. Thurman, E.M., Ferrer, I.; Malato, O.; Fernández-Alba, A.R., **2006**, Feasibility of LC/TOFMS and elemental database searching as a spectral library for pesticides in food, *Food Additives and Contaminants*, v. 23, 1169-1178.
22. Mezcua, M.; Ferrer, I.; Hernando, M.D.; Fernández-Alba, A.R., **2006**, Photolysis and photocatalysis of Bisphenol A: identification of degradation products by liquid chromatography with electrospray ionization/time-of-flight/mass spectrometry (LC/ESI/ToF/MS), *Food Additives and Contaminants*, v. 23, 1242-1251.
23. García-Reyes, J.F.; Ferrer, C.; M.; Thurman, E.M.; Fernández-Alba A.R.; Ferrer, I, **2006**, Analysis of Herbicides in Olive Oil by Liquid Chromatography Time-of-Flight Mass Spectrometry, *Journal of Agricultural and Food Chemistry*, v. 54, 6493-6500.
24. Thurman, E.M.; Ferrer, I.; Fernández-Alba, A.R., **2005**, Matching unknown empirical formulas to chemical structure using LC/MS TOF accurate mass and database searching: examples of unknown pesticides on tomato skins, *Journal of Chromatography A*, v. 1067, 127-134.
25. Ferrer, C.; Gómez, M.J.; García-Reyes, J.F.; Ferrer, I.; Thurman, E.M.; Fernández-Alba, A.R., **2005**, Determination of Pesticide Residues in Olives and Olive Oil by Matrix Solid-phase Dispersion Followed by Gas Chromatography/Mass Spectrometry and Liquid Chromatography/Tandem Mass Spectrometry, *Journal of Chromatography A*, v. 1069, 183-194.
26. Ferrer, I.; Thurman, E.M.; Fernández-Alba, A.R., **2005**, Quantitation and Accurate Mass Analysis of Pesticides in Vegetables by LC/TOF-MS, *Analytical Chemistry*, v. 77, 2818-2825.
27. Ferrer, I.; Thurman, E.M., **2005**, Measuring the Mass of an Electron by LC/TOF-MS: A Study of “Twin Ions”, *Analytical Chemistry*, v. 77, 3394-3400.
28. Thurman, E.M.; Ferrer, I.; Zweigenbaum, J.A.; García-Reyes, J.F.; Woodman, M.; Fernández-Alba, A.R., **2005**, Discovering Metabolites of Post-harvest Fungicides in Citrus with Liquid Chromatography/time-of-flight Mass Spectrometry and Ion Trap Tandem Mass Spectrometry, *Journal of Chromatography A*, v. 1082, 71-80.
29. Ferrer, I.; García-Reyes, J.F.; Mezcua, M.; Thurman, E.M.; Fernández-Alba, A.R., **2005**, Multi-residue

- pesticide analysis in fruit and vegetables by liquid chromatography-time-of-flight-mass spectrometry, *Journal of Chromatography A*, v. 1082, 81-90.
30. Agüera, A.; Pérez Estrada, L.A.; Ferrer, I.; Thurman, E.M.; Malato, S.; Fernández-Alba, A.R., **2005**, Application of time-of-flight mass spectrometry to the analysis of phototransformation products of diclofenac in water under natural sunlight, *Journal of Mass Spectrometry*, v. 40, 908-915.
 31. Ferrer, I; García-Reyes, J.F.; Fernández-Alba, A.R., **2005**, Identification and quantitation of pesticides in vegetables by liquid chromatography time-of-flight mass spectrometry, *Trends in Analytical Chemistry (TRAC)*, v.24, 671-682.
 32. García-Reyes, J.F.; Ferrer, I.; Thurman, E.M.; Molina-Díaz, A.; Fernández-Alba, A.R., **2005**, Searching for Non-target Chlorinated Pesticides in Food by Liquid Chromatography/Time-of-flight Mass Spectrometry, *Rapid Communications in Mass Spectrometry*, v. 19, 2780-2788.
 33. Pérez-Estrada, L.A.; Malato, S.; Gernjak, W.; Agüera, A.; Thurman, E.M.; Ferrer, I.; Fernández-Alba, A.R., **2005**, Photo-Fenton Degradation of Diclofenac: Identification of Main Intermediates and Degradation Pathway, *Environmental Science and Technology*, v.39, 8300-8306.
 34. Kinney, C.A.; Mosier, A.R.; Ferrer, I.; Furlong, E.T.; Mandernack, K.W., **2004**, Effects of the fungicides mancozeb and chlorothalonil on fluxes of CO₂, N₂O, and CH₄ in a fertilized Colorado grassland soil, *Journal of Geophysical Research-atmospheres*, v. 109 (D5), Art. No. D05303.
 35. Kinney, C.A.; Mosier, A.R.; Ferrer, I.; Furlong, E.T.; Mandernack, K.W., **2004**, Effects of the herbicides prosulfuron and metolachlor on fluxes of CO₂, N₂O, and CH₄ in a fertilized Colorado grassland soil, *Journal of Geophysical Research-atmospheres*, v. 109 (D5), Art. No. D05304.
 36. Ferrer, I.; Mezcua, M.; Gomez, M.J.; Thurman, E.M.; Agüera, A.; Hernando, M.D.; Fernandez-Alba, A.R., **2004**, Liquid Chromatography/time-of-flight mass spectrometric analyses for the Elucidation of the Photodegradation Products of Triclosan in Wastewater Samples, *Rapid Communications in Mass Spectrometry*, v. 18, 443-450.
 37. Thurman, E.M.; Ferrer, I.; Benotti, M.; Heine, C.E., **2004**, Intramolecular Isobaric Fragmentation: A Curiosity of Accurate Mass Analysis of Sulfadimethoxine in Pond Water, *Analytical Chemistry*, v. 76, 1228-1235.
 38. Ferrer, I.; Heine, C.E.; Thurman, E.M., Combination of LC/TOF/MS and LC/Ion Trap/MS/MS for the Identification of Diphenhydramine (Benadryl) in Sediment Samples, **2004**, *Analytical Chemistry*, v. 76, 1437-1444.
 39. Mezcua, M.; Gómez, M.J.; Ferrer, I.; Agüera, A.; Hernando, M.D.; Fernández-Alba, A.R., **2004**, Evidence of 2,7/2,8-dibenzodichloro-p-dioxin as a photodegradation product of Triclosan in water and wastewater samples, *Analytica Chimica Acta*, v. 524, 241-247.
 40. Wershaw, R.L.; Rutherford, R.D.; Rostad, C.E.; Garbarino, J.R.; Ferrer, I.; Kennedy, K.R.; Momplaisir, G.M.; Grange, A., **2003**, Mass spectrometric identification of an azobenzene derivative produced by smectite-catalyzed conversion of 3-amino-4-hydroxyphenylarsonic acid, *Talanta*, v. 59, 1219-1226.
 41. Bednar, A.J.; Garbarino, J.R.; Ferrer, I.; Rutherford, D.W.; Wershaw, R.L.; Ranville, J.F. and Wildeman, T.R., **2003**, Photodegradation of Roxarsone in Poultry Litter Leachates, *Science of the Total Environment*, v. 302, 237-245.
 42. Ferrer, I. and Thurman, E.M., **2003**, Liquid Chromatography/Time-of-Flight/Mass Spectrometry (LC/TOF/MS) for the Analysis of Emerging Contaminants, *Trends in Analytical Chemistry (TRAC)*, v. 22, n 10, 750-756.

43. Ferrer, I and Furlong, E.T., **2002**, Accelerated Solvent Extraction Followed by On-line Solid-Phase Extraction Coupled to Ion Trap LC/MS/MS for Analysis of Benzalkonium Chlorides in Sediment Samples, *Analytical Chemistry*, v. 74, 1275-1280.
44. Thurman E.M.; Ferrer, I. and Parry, R., **2002**, Accurate mass analysis of ethanesulfonic acid degradates of acetochlor and alachlor using high-performance liquid chromatography and time-of-flight mass spectrometry, *Journal of Chromatography A*, v. 957, 3-9.
45. Basile, F.; Ferrer, I.; Furlong, E.T.; Voorhees, K.J., **2002**, Simultaneous Multiple Substrate Tag Detection with ESI-Ion Trap MS for in Vivo Bacterial Enzyme Activity Profiling, *Analytical Chemistry*, v. 74, 4290-4293.
46. Leenheer, J. A.; Rostad, C. E.; Gates, P. M.; Furlong, E. T. and Ferrer, I., **2001**, Molecular Resolution and Fragmentation of Fulvic Acid by Electrospray Ionization/Multistage Tandem Mass Spectrometry, *Analytical Chemistry*, v. 73, 1461-1471.
47. Ferrer, I. and Furlong, E. T., **2001**, Identification of Alkyl Dimethylbenzylammonium Surfactants in Water Samples by Solid-Phase Extraction Followed by Ion Trap LC/MS and LC/MS/MS, *Environmental Science & Technology*, v. 35, 2583-2588.
48. Martinez, K.; Ferrer, I.; Hernando, M.D.; Fernandez-Alba, A.R.; Marce, R.M.; Borrull, F. and Barcelo, D., **2001**, Occurrence of Antifouling Biocides in the Spanish Mediterranean Marine Environment, *Environmental Technology*, v. 22 (5), 543-552.
49. Ferrer, I. and Barceló, D., **2001**, Identification of a New Degradation Product of the Antifouling Agent Irgarol 1051 in Natural Samples, *Journal of Chromatography A*, v. 926, 221-228.
50. Thurman, E. M.; Ferrer, I., and Barceló, D., **2001**, Choosing between Atmospheric Pressure Chemical Ionization and Electrospray Ionization Interfaces for the HPLC/MS Analysis of Pesticides, *Analytical Chemistry*, v. 73, 5441-5449.
51. Farré, M.; Ferrer, I.; Ginebreda, A.; Figueras, M.; Olivella, L.; Tirapu, L.; Vilanova, M. and Barceló, D., **2001**, Determination of Drugs in Surface Water and Wastewater Samples by Liquid Chromatography-Mass Spectrometry: Methods and Preliminary Results Including Toxicity Studies with *Vibrio Fischeri*, *Journal of Chromatography A*, v. 938, 187-197.
52. Peñuela, G. A.; Ferrer, I., and Barceló, D., **2000**, Identification of new photodegradation byproducts of the antifouling agent Irgarol in seawater samples, *International Journal of Environmental Analytical Chemistry*, v. 78, 25-40.
53. Ferrer, I.; Barceló, D., and Thurman, E. M., **2000**, First LC/MS Determination of Cyanazine Amide, Cyanazine Acid and Cyanazine in Groundwater Samples, *Environmental Science & Technology*, v. 34, 714-718.
54. Martínez, K.; Ferrer, I., and Barceló, D., **2000**, Part-per-trillion Level Determination of Antifouling Pesticides and their Byproducts in Seawater Samples by off-line Solid-phase Extraction Followed by High-Performance Liquid Chromatography-Atmospheric Pressure Chemical Ionization Mass Spectrometry, *Journal of Chromatography A*, v. 879, 27-37.
55. Ferrer, I.; Lanza, F.; Tolokan, A.; Horvath, V.; Sellergren, B.; Horvai, G., and Barceló, D., **2000**, Selective Trace Enrichment of Chlorotriazine Pesticides from Natural Waters and Sediment Samples using Terbutylazine Molecularly Imprinted Polymers, *Analytical Chemistry*, v. 72, 3934-3941.
56. Madonna, A.; Basile, F.; Ferrer, I.; Meetani, M. A.; Rees, J. C., and Voorhees, K. J., **2000**, On-Probe Sample Pretreatment for the Detection of Proteins Above 15kDa from Whole Cell Bacteria by Matrix-Assisted Laser Desorption/Ionization Time-of-Flight Mass Spectrometry, *Rapid Communications in*

Mass Spectrometry, v. 14, 2220-2229.

57. Ferrer, I.; Barceló, D., and Thurman, E. M., **1999**, Double-Disk Solid-Phase Extraction: Simultaneous Cleanup and Trace Enrichment of Herbicides and Metabolites from Environmental Samples: *Analytical Chemistry*, v. 71, p. 1009-1015.
58. Aguilar, C.; Ferrer, I.; Borrull, F.; Marcé, R. M., and Barceló, D., **1999**, Monitoring of Pesticides in River Water Based on Samples Previously Stored in Polymeric Cartridges Followed by On-line SPE/LC/DAD and Confirmation by APCI/MS, *Analytica Chimica Acta*, v. 386, 237-248.
59. Ferrer, I. and Barceló, D., **1999**, Validation of New Solid-Phase Extraction Materials for the Selective Enrichment of Organic Contaminants from Environmental Samples: *Trends in Analytical Chemistry (TRAC)*, v. 18, 180-192.
60. Ferrer, I. and Barceló, D., **1999**, Simultaneous Determination of Antifouling Herbicides in Marina Water Samples by on-line Solid-Phase Extraction followed by Liquid Chromatography-Mass Spectrometry, *Journal of Chromatography A*, v. 854, 197-206.
61. M. A. González-Martínez, R. Puchades, A. Maquieiria, I. Ferrer, M-P. Marco, D. Barceló, **1999**, Reversible Immunosensor for the Automatic Determination of Atrazine. Selection and Performance of three Polyclonal Antisera, *Analytica Chimica Acta*, v. 386, 201-210.
62. Aguilar, C.; Ferrer, I.; Borrull, F.; Marcé, R. M., and Barceló, D., **1998**, Comparison of automated on-line solid-phase extraction followed by liquid chromatography-mass spectrometry with atmospheric pressure chemical ionization and particle beam mass spectrometry for the determination of a priority group of pesticides in environmental waters: *Journal of Chromatography A*, v. 794, p. 147-163.
63. Fernández-Alba, A.; Agüera, A.; Contreras, M.; Peñuela, G.; Ferrer, I., and Barceló, D., **1998**, Comparison of Various Sample Handling and Analytical Procedures for the Monitoring of Pesticides and Metabolites in Ground Waters: *Journal of Chromatography A*, v. 823, p. 35-47.
64. Kalkhoff, S. J.; Kolpin, D. W.; Thurman, E. M.; Ferrer, I., and Barceló, D., **1998**, Degradation of Chloroacetanilide Herbicides: the Prevalence of Sulfonic and Oxanilic Acid Metabolites in Iowa Groundwaters and Surface Waters: *Environmental. Science & Technology*, v. 32, p. 1738-1740.
65. Ferrer, I. and Barceló, D., **1998**, LC-MS Methods for Trace Determination of Pesticides in Environmental Samples: *Analisis*, v. 26, p. M118-M122.
66. Pérez, S.; Ferrer, I.; Hennion, M-C., and Barceló, D., **1998**, Isolation of Priority Polycyclic Aromatic Hydrocarbons from Natural Sediments and Sludge Reference Materials by an Anti-fluorene Immunosorbent Followed by Liquid Chromatography and Diode Array Detection: *Analytical Chemistry*, v. 70, p. 4996-5001.
67. Ferrer, I. and Barceló, D., **1997**, Stability of Pesticides Stored on Polymeric Solid-Phase Extraction Cartridges: *Journal of Chromatography A*, v.778, p. 161-170.
68. Ferrer, I.; Pichon, V.; Hennion, M-C, and Barceló, D., **1997**, Automated Sample Preparation with Extraction Columns by means of Anti-isoproturon Immunosorbents for the Determination of Phenylurea Herbicides in Water Followed by LC-DAD and LC-APCI-MS: *Journal of Chromatography A*, v. 777, p. 91-98.
69. Ferrer, I.; Hennion, M-C., and Barceló, D., **1997**, Immunosorbents Coupled On-line with Liquid Chromatography- Atmospheric Pressure Chemical Ionization- Mass Spectrometry for the Part per Trillion Level Determination of Pesticides in Sediments and Natural Waters Using Low Preconcentration Volumes: *Analytical Chemistry (Accelerated Paper)*, v. 69, p. 4508-4514.

70. Ferrer, I.; Thurman, E. M., and Barceló, D., **1997**, Identification of Ionic Chloroacetanilide-Herbicides Metabolites in Surface Water and Groundwater by HPLC/MS Using Negative Ion Spray: *Analytical Chemistry*, v. 69, p. 4547-4553.
71. Ferrer, I.; Ballesteros, B.; Marco, M-P., and Barceló, D., **1997**, Pilot Survey for Determination of the Antifouling Agent Irgarol 1051 in Enclosed Seawater Samples by a Direct Enzyme-Linked-Immunosorbent Assay and Solid-Phase-Extraction Followed by Liquid Chromatography-Diode Array Detection: *Environmental. Science & Technology*, v. 31, p. 3530-3535.
72. Oubiña, A.; Gascón, J.; Ferrer, I., and Barceló, D., **1996**, Evaluation of a Magnetic Particle-Based ELISA for the Determination of Chlorpyrifos-ethyl in Natural Waters and Soil Samples: *Environmental. Science and Technology*, v. 30, p. 509-512.
73. Ferrer, I. and Barceló, D., **1996**, Determination and Stability of Pesticides in Freeze-dried Water Samples by Automated On-line Solid-Phase Extraction Followed by Liquid Chromatography with Diode Array Detection: *Journal of Chromatography A*, v. 737, p. 93-99.
74. Gascón, J.; Oubiña, A.; Ferrer, I.; Önerfjord, P.; Marko-Varga, G.; Hammock, B. D.; Marco, M-P., and Barceló, D., **1996**, Performance of two Immunoassays for the Determination of Atrazine in Sea Water Samples as Compared with On-line Solid Phase Extraction-Liquid Chromatography-Diode Array Detection: *Analytica Chimica Acta*, v. 330, p. 41-51.
75. Oubiña, A.; Ferrer, I.; Gascón, J., and Barceló, D., **1996**, Disappearance of Aerially Applied Fenitrothion in Rice Crop Waters: *Environmental. Science & Technology*, v. 30, p. 3551-3557.

Edited Books

- Ferrer, I. and Thurman, E.M., Edited book on “Liquid Chromatography/Time-of-Flight Mass Spectrometry: Principles, Tools and Applications for Accurate Mass Analysis, Hoboken, NJ, Wiley, 2009, p.261.
- Ferrer, I. and Thurman E. M., Edited book on “Liquid Chromatography/Mass Spectrometry, MS/MS and Time-of-Flight MS: Analysis of Emerging Contaminants”, ACS Symposium Series 850; American Chemical Society: Washington, D.C., 2003, p 415. (2 chapters as first author and 5 as second author).

Chapters in Books

- Ferrer, I.; Thurman, E.M.; Zweigenbaum, J.A., “LC/TOF-MS Analysis of Pesticides in Fruits and Vegetables: the Emerging Role of Accurate Mass in the Unambiguous Identification of Pesticides in Food” in J.A. Zweigenbaum (Editor), *Mass Spectrometry in Food Safety: Methods and Protocols*, Humana Press, Springer Protocols, New York, USA, **2011**, p. 193.
- Ferrer, I. and Thurman, E.M., Edited book on “Liquid Chromatography/Time-of-Flight Mass Spectrometry: Principles, Tools and Applications for Accurate Mass Analysis, Hoboken, NJ, Wiley, **2009**, p.261. (2 chapters as first author and 2 as second author).
- Thurman, E.M., Ferrer, I., “Identification of Unknown Environmental Contaminants Using Multidimensional LC-MS Strategies Involving TOF-MS, Ion Trap MS_n and Q-TOF MS-MS”, *Encyclopedia of Mass Spectrometry*, W. Niessen (Editor), Volume 8, Elsevier, Amsterdam, **2006**, pp. 567-572.
- Ferrer, I.; Abián, J.; Fernández-Alba, “LC-MS II: Applications for Pesticide Food Analysis” in: A.R.

Fernández-Alba (Editor), *Chromatographic-Mass Spectrometric Food Analysis for Trace Determination of Pesticide Residues*, Elsevier, Amsterdam, The Netherlands, **2005**, p. 403.

- Thurman, E.M.; Ferrer, I.; Fernández-Alba, “LC-MS I: Basic Principles and Technical Aspects of LC-MS for Pesticide Análisis” in: A.R. Fernández-Alba (Editor), *Chromatographic-Mass Spectrometric Food Analysis for Trace Determination of Pesticide Residues*, Elsevier, Amsterdam, The Netherlands, **2005**, p. 369.
- Hernando, M.D., Ferrer, I and Fernández-Alba, A.R. on “The Handbook of Environmental Chemistry”, Springer-Verlag Heidelberg, **2004**, volume 50. (Evaluation of Pesticides in Wastewaters. A Combined (Chemical and Biological) Analytical Approach).
- Ferrer, I. and Thurman E. M., Edited book on “Liquid Chromatography/Mass Spectrometry, MS/MS and Time-of-Flight MS: Analysis of Emerging Contaminants”, ACS Symposium Series 850; American Chemical Society: Washington, D.C., 2003, p 415. (2 chapters as first author and 5 as second author).
- Ferrer, I; Schroeder, H. Fr. and Furlong E.T., “Analyses of Cationic Surfactants: Methods and Applications”, in: T.P. Knepper, D. Barceló and P. de Voogt (Editors), *Analysis and Fate of Surfactants in the Aquatic Environment*, Elsevier, Amsterdam, The Netherlands, **2003**, p. 353.

Keynote Lectures at Conferences

- Keynote lecture at the “12th Symposium on Sample Handling for Environmental and Biological Analysis”, Zaragoza, Spain, October 2006
- Keynote lecture at the “2nd International Symposium on Recent Advances in Food Analysis”, Prague, Czech Republic, November 2005.

Invited Talks at Conferences

- Pittcon 2012 (63rd Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy), Orlando, FL, USA, March 2012.
- Pittcon 2011 (62nd Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy), Atlanta, GA, USA, February 2011.
- Agilent Technologies, 2010 (7th Simposium de Instrumentación Analítica, Biociencias y Análisis Químicos), Mexico City, Mexico, July 2010.
- Pittcon 2010 (61th Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy), Orlando, FL, USA, February 2010.
- IV Reunión Sociedad Española de Espectrometría de Masas-SEEM, Castellón de la Plana, Spain, October 2009.
- Agilent Technical Forum on Mass Spectrometry at the 57th Conference on Mass Spectrometry and Allied Topics (ASMS), Philadelphia, PA, USA, May 2009.
- Pittcon 2009 (60th Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy), Chicago, IL, USA, March 2009.
- 45th Annual Florida Pesticide Residue Workshop (FPRW), St. Pete Beach, FL, USA, July 2008.
- Agilent Technical Forum on Mass Spectrometry at the 55th Conference on Mass Spectrometry and Allied Topics (ASMS), Indianapolis, IN, USA, June 2007.
- Pittcon 2007 (58th Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy), Chicago, IL, USA, March 2007.
- 6th European Pesticide Residue Workshop, Corfu, Greece, June 2006.
- Pittcon 2006 (57th Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy), Orlando, FL, USA, March 2006.

- Pittcon 2005 (56th Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy), Orlando, FL, USA, February 2005.
- 5th European Pesticide Residues Workshop: Pesticides in Food and Drink, Stockholm, Sweden, June 2004.
- Pittcon 2004 (55th Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy), Chicago, IL, USA, March 2004.
- SACH Conference, Zurich, Switzerland, September 2003.
- Pittcon 2003 (54th Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy), Orlando, FL, USA, March 2003.
- 223rd ACS National Meeting, Orlando, Florida, USA, April 2002 (two lectures in different sessions).
- Pittcon 2002 (53th Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy), New Orleans, LO, USA, March 2002.
- 21st Annual Meeting of the Society of Environmental Toxicology and Chemistry (SETAC)[®], Nashville, Tennessee, USA, November 2000.
- 7th Symposium on the Chemistry and Fate of Modern Pesticides, Lawrence, Kansas, USA, September 1999.
- Immunochemistry Summit VII & Third Workshop on Biosensors and Biological Techniques in Environmental Analysis, Las Vegas, Nevada, USA, December 1998.

Other Talks at Conferences

- 58th Conference on Mass Spectrometry and Allied Topics (ASMS), Salt Lake City, UT, USA, May 2010.
- 2nd International Conference on Occurrence, Fate, Effects, and Analysis of Emerging Contaminants in the Environment (EmCon), Fort Collins, CO, USA, August 2009.
- American Water Works Association (AWWA) Research Symposium: Emerging Organic Contaminants, Austin, TX, USA, February 2009.
- 56th Conference on Mass Spectrometry and Allied Topics (ASMS), Denver, CO, USA, June 2008.
- Pittcon 2008 (59th Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy), New Orleans, LA, USA, March 2008.
- 17th International Mass Spectrometry Conference, Prague, Czech Republic, August 2006.
- II Reunión Sociedad Española de Espectrometría de Masas-SEEM, Barcelona, Spain, November 2004.
- 3rd Scientific Meeting of the Spanish Society of Chromatography and Related Techniques, Almería, Spain, November 2003.
- Chemical Analysis and Risk Assessment of Emerging Contaminants in Sediments and Dredged material[®]. Barcelona, Spain, November 2002.
- 43rd Rocky Mountain Conference on Analytical Chemistry, Denver, Colorado, USA, July 2001.
- 42nd Rocky Mountain Conference on Analytical Chemistry, Broomfield, Colorado, USA, July 2000.
- Fourth Workshop on Biosensors and Biological Techniques in Environmental Analysis, Maó, Menorca, Spain, December 1999.
- The 9th Symposium on Handling of Environmental and Biological Samples in Chromatography, Oporto, Portugal, October 1999.
- 2nd Euroconference on Environmental Analytical Chemistry. Environmental Analytical

- Chemistry for the Protection of Sensitive Ecosystems, Córdoba, Spain, October 1998.
- 6th Symposium on Chemistry and Fate of Modern Pesticides, Amsterdam, The Netherlands, June 1997.

Poster Presentations at Conferences

- 57th Conference on Mass Spectrometry and Allied Topics (ASMS), Philadelphia, PA, May-June 2009.
- 3rd International Symposium on Recent Advances in Food Analysis, Prague, Czech Republic, November 2007.
- 12th Symposium on Sample Handling for Environmental and Biological Analysis, Zaragoza, Spain, October 2006.
- 17th International Mass Spectrometry Conference, Prague, Czech Republic, August 2006.
- 6th European Pesticide Residue Workshop, Corfu, Greece, June 2006.
- Pittcon 2006 (57th Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy), Orlando, FL, USA, March 2006.
- 2nd International Symposium on Recent Advances in Food Analysis, Prague, Czech Republic, November 2005.
- Pittcon 2005 (56th Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy), Orlando, FL, USA, February 2005.
- 21st Symposium on Liquid Chromatography Mass Spectrometry (LC/MS; SFC/MS; CE/MS; MS/MS), Montreux, Switzerland, November 2004.
- 51th Conference on Mass Spectrometry and Allied Topics (ASMS), Montreal, Canada, June 2003.
- 50th Conference on Mass Spectrometry and Allied Topics (ASMS), Orlando, Florida, USA, June 2002.
- 22nd Annual Meeting of the Society of Environmental Toxicology and Chemistry (SETAC), Baltimore, Maryland, USA, November 2001.
- 49th Conference on Mass Spectrometry and Allied Topics (ASMS), Chicago, Illinois, USA, May 2001.
- 10th Symposium on Handling of Environmental and Biological Samples in Chromatography, Mainz, Germany, April 2001.
- 17th Symposium on Liquid Chromatography Mass Spectrometry (LC/MS; SFC/MS; CE/MS; MS/MS), Montreux, Switzerland, November 2000.
- 48th Conference on Mass Spectrometry and Allied Topics (ASMS), Long Beach, California, USA, June 2000.
- 9^{as} Jornadas de Análisis Instrumental (JAI), Expoquímica, Barcelona, Spain, November 1999.
- 15th Symposium on Liquid Chromatography Mass Spectrometry (LC/MS; SFC/MS; CE/MS; MS/MS), Montreux, Switzerland, November 1998.
- V International Symposium on Analytical Methodology in the Environmental Field, La Coruña, Spain, April 1998.
- European Workshop on Environmental Technologies 1997: Waste Water Treatment and Monitoring, Abatement of Emissions to the Atmosphere, Cleaner Technologies, Cranfield, Bedford, UK, December 1997.
- 8th Symposium on Handling of Environmental and Biological Samples in Chromatography, Almería, Spain, October 1997.
- 4th European Workshop on Biosensors for Environmental Monitoring, Barcelona, Spain, February 1996.

- 13 th. Symposium on Liquid Chromatography Mass Spectrometry (LC/MS; SFC/MS; CE/MS; MS/MS), Montreux, Switzerland, November 1996.
- 8^{as} Jornadas de Análisis Instrumental (JAI), Expoquimía, Barcelona, Spain, October 1996.
- 26th International Symposium on Environmental Analytical Chemistry, Vienna, Austria, April 1996.

Invited Seminars

- Weisser Analitica Group, Santiago de Chile, Chile, August 20th 2009.
- Department of Pharmaceutical Science, University of Salerno, Italy, May 14th 2007.
- Department of Analytical Chemistry, University “La Sapienza”, Roma, Italy, May 11th 2007.
- Department of Chemistry, Universidad de Jaén, Spain, July 12th 2005.
- Agilent Technologies Santa Clara Site, Santa Clara, California, USA, February 7th 2005.
- Analytical Chemistry Department, University of Almería, Almería, Spain, September 29th 2003.
- Department of Chemistry, Colorado School of Mines, Golden, Colorado, USA, February 15th 2000.
- EAWAG, Dübendorf, Switzerland, August 5th 1999.
- NWQL of the US Geological Survey, Federal Center, Denver, Colorado, USA, June 7th 1999.
- Organic Geochemistry Group, U.S. Geological Survey, Lawrence, Kansas, USA, May 22nd 1997.

Teaching of Courses

- Pittcon Conference, Orlando, Florida, USA, March 17th 2006
“Interpretation of Electrospray Mass Spectra of Small Molecules”
- Agilent Technologies World Tour 2006, València, Spain, June 2006.
“Aplicación de técnicas de LC-MS para el análisis de microcontaminantes en alimentos y aguas”
- Pittcon Conference, Orlando, Florida, USA, February 28th 2005.
“Interpretation of Electrospray Mass Spectra of Small Molecules”
- ANECOOP site in Valencia, Spain, November 4th 2004.
“Aplicación de LC/TOF/MS como método multi-residuos”
- Pittcon Conference, Chicago, Illinois, USA, March 11th 2004.
“Interpretation of Electrospray Mass Spectra of Small Molecules”
- Waters User’s Meeting at the 51th Conference on Mass Spectrometry and Allied Topics (ASMS), Montreal, Canada, June 2003.
- University of Oviedo, Spain, May 11-15th 1998.
“Control analítico de la contaminación ambiental: instrumentos necesarios y su implantación en el sistema de calidad”
- University of Almeria, Spain, October 23-25th 1997.
“Short Course on Handling of Environmental Samples”

Organization of Symposia and International Conferences

- Pittcon 2009 (60th Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy), Chicago, IL, USA, March 2009. “Achievements and Challenges in Mass Spectrometry III”.

- Pittcon 2008 (59th Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy), New Orleans, LA, USA, March 2008. “Achievements and Challenges in Mass Spectrometry II”.
- Pittcon 2007 (58th Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy), Chicago, IL, USA, March 2007. “Achievements and Challenges in Mass Spectrometry I”.
- 4th European Conference on Pesticides and Related Organic Micropollutants in the Environment and 10th Symposium on Chemistry and Fate of Modern Pesticides, Almería, Spain, November 26-29th 2006.
- Pittcon 2006 (57th Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy), Orlando, FL, USA, March 2006. “Liquid Chromatography/Time-of-Flight Mass Spectrometry and Other New LC-MS Methods for the Analysis of Pesticides and Pharmaceuticals in Food and Water”
- Pittcon 2005 (56th Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy), Orlando, FL, USA, February 2005. “Liquid Chromatography/Time-of-Flight Mass Spectrometry for Accurate Mass Analysis of Pesticides and Pharmaceuticals in Food and Water”
- Pittcon 2004 (55th Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy), Chicago, IL, USA, March 2004. “Accurate Mass Analysis of Pharmaceuticals and Hormones in Environmental Samples by Liquid Chromatography/Mass Spectrometry (Time-of-Flight and Quadrupole-Time-of-Flight, LC/MS TOF and Q-TOF)”
- 3rd Scientific Meeting of the Spanish Society of Chromatography and Related Techniques and 3rd Waste Water Cluster European Workshop, Almería, Spain, November 19-21st 2003.
- Pittcon 2003 (54th Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy), Orlando, FL, USA, March 2003. “Identification and Discovery of Emerging Contaminants by Liquid Chromatography Mass Spectrometry/Mass Spectrometry (LC/MS/MS)”.
- 223rd American Chemical Society National Meeting (ACS), Orlando, Florida, USA, April 7-11th 2002. Session on “Analysis of Emerging Contaminants Using LC/MS/MS”.
- Fourth Workshop on Biosensors and Biological Techniques in Environmental Analysis, Maó, Menorca, Spain, December 1-3rd 1999.

Professional Activities

- Member of the Spanish Society for Mass Spectrometry (SEEM).
- Member of the American Society for Mass Spectrometry (ASMS).
- Frequent referee of journal papers for Analytical Chemistry, Environmental Science & Technology, Rapid Communications in Mass Spectrometry, Journal of Mass Spectrometry, Journal of Chromatography A, Analytical & Bioanalytical Chemistry...
- Peer reviewer of research proposals to the Spanish Ministry of Education (MEC) through the ANEP (Agencia Nacional de Evaluación y prospective).
- Ph. D. committee member of Maria Ibáñez, Universitat Jaume I, Castellón, Spain, February 15th 2006.
- Ph. D. committee member of Núria Fontanals, Universitat Rovira y Virgili, Tarragona, Spain, February 18th 2005.

Awards and Honors

- José Castillejo Travel Fellowship for Visiting Scientist, November 2007.
- Ramón y Cajal Post-doctoral Fellowship, declined 2003.

- Fullbright Visiting Scientist Program between Spain and USA (years 1999 and 2001).
- Best poster award at the “9^{as} Jornadas de Análisis Instrumental (JAI), Expoquímica”, Barcelona, Spain, November 1999.
- Accelerated paper in Analytical Chemistry, November 1997, v. 69, p. 4508-4514.

Patents

- Determination of chemical empirical formulas of unknown compounds using accurate ion mass measurement of all isotopes, 2007, *US 20070114373*.

Hands-on Experience on Analytical Instruments

Solid Phase Extraction (SPE):

- Automated on-line solid-phase extraction system, Prospekt (Spark Holland, the Netherlands).
- Automated on-line solid-phase extraction system, OSP-2 (Merck, Germany).
- Automated off-line solid-phase extraction system, Millilab Workstation (Waters, Milford, MA).
- Automated off-line solid-phase extraction system, ASPEC XL (Gilson, Villiviers-le-Bel, France).

LC/MS Single Quadrupole systems:

- Quadrupole Mass Spectrometer, VG Platform (Micromass, Manchester, UK).
- Quadrupole Mass Spectrometer, MSD 1100 (Agilent Technologies, Palo Alto, CA).

LC/TOF/MS systems:

- Quadrupole Time-of-Flight Mass Spectrometer, Leco Jaguar (Leco, St. Joseph, MI).
- Quadrupole Time-of-Flight Mass Spectrometer, LCT (Micromass, Manchester, UK).
- Quadrupole Time-of-Flight Mass Spectrometer, Mariner (Applied Biosystems, Foster City, CA, USA).
- Time-of-Flight Mass Spectrometer Agilent, 6420 (Agilent Technologies, Santa Clara, CA, USA).
- Quadrupole Time-of-Flight Mass Spectrometer Agilent, 6510 (Agilent Technologies, Santa Clara, CA, USA).

LC/MS/MS systems:

- Quadrupole Ion Trap Mass Spectrometer, Bruker Esquire (Bruker Daltonics, Bellerica, MA).
- Triple Quadrupole Mass Spectrometer, Quattro Ultima (Micromass, Manchester, UK).
- Quadrupole Ion Trap Mass Spectrometer, XCT (Agilent Technologies, Palo Alto, CA).

- Triple Quadrupole Mass Spectrometer, 6460 (Agilent Technologies, Palo Alto, CA).

MALDI/TOF/MS systems:

- MALDI/TOF/MS (Applied Biosystems, Foster City, CA, USA).

GC/MS Instruments:

- Quadrupole Mass Spectrometer, *MSD* (Agilent Technologies, Palo Alto, CA).
- Triple Quadrupole Mass Spectrometer, 7000A, (Agilent Technologies, Palo Alto, CA).
- Ion Trap Mass Spectrometer, GCQ/Polaris (ThermoFinnigan, Austin, TX).